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ABSTRACT

The guidelines presented in this publication focus on the education of gifted students within Catholic schools. Initial sections address the challenge of teaching gifted sudents and note the variety of gifts and talents. Goals are presented for educating gifted students in terms of three areas: (1) school (organizational options, directional approaches, teacher qualifications); (2) classroom (teaching/learning approaches, classroom management); and (3) person and community. A chapter dealing with identification examines referral, screening, and the relationship of referral, screening, and identification to definitions. Considerations in evaluation include general issues as well as those related to student progress and placement. A final section lists approximately 50 resources (books and materials). (CL)

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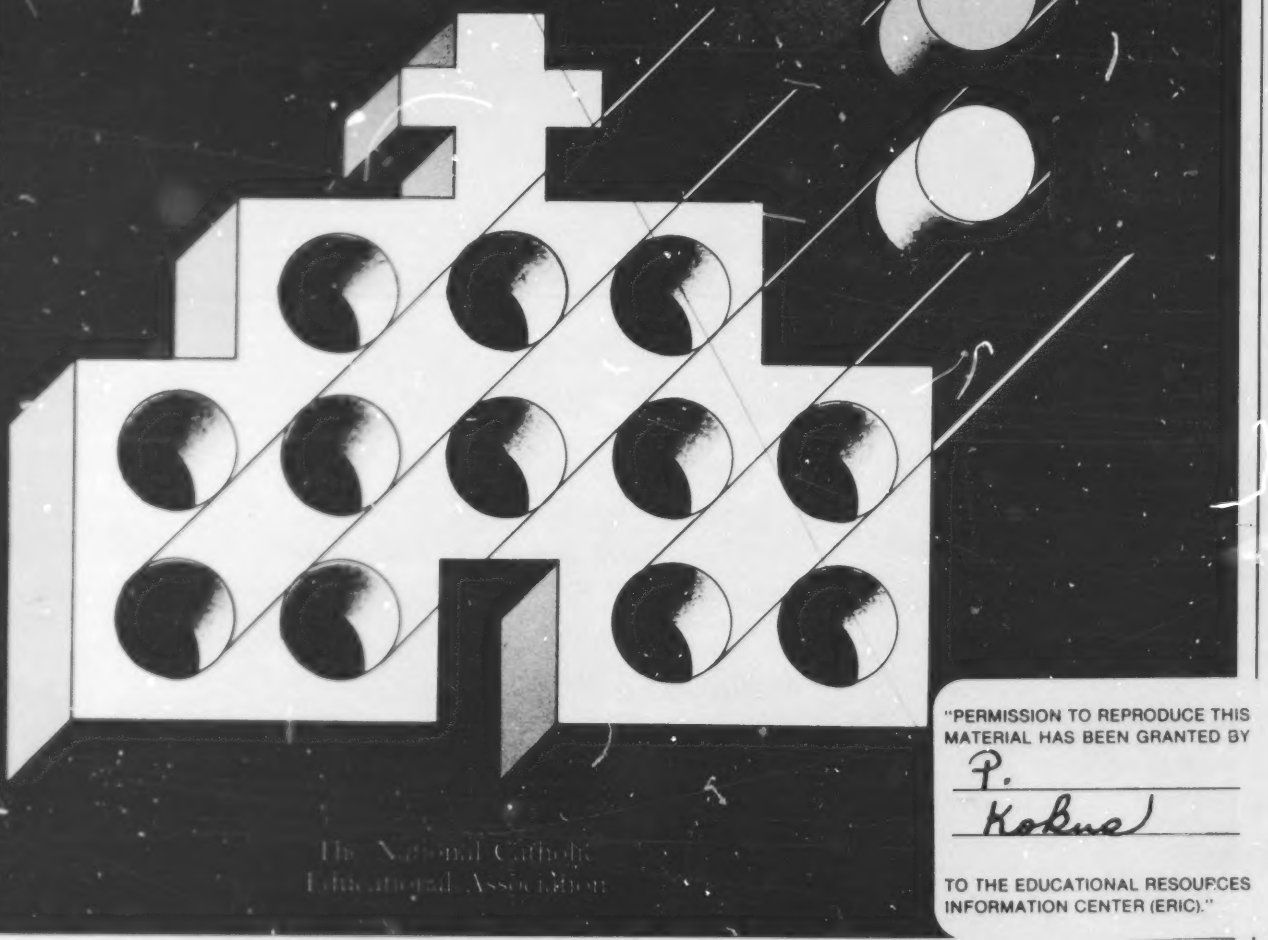
CHALLENGING *Gifted* STUDENTS IN THE CATHOLIC SCHOOL



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CHALLENGING *Gifted* STUDENTS IN THE CATHOLIC SCHOOL

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Preface

One of the critical challenges facing humankind today is how to deal creatively and effectively with the pluralism which exists in all facets of our life together. Pluralism is mirrored daily in morning newspapers and nightly TV news programs, in the form of different beliefs about power and authority, the distribution of wealth, the role of religion in politics, ethical positions on life and death, and educational policies and practices in our school systems.

This book deals with the education of gifted students within our Catholic schools. In our recent publications regarding education of some mildly handicapped students in our schools, we have encouraged teachers to make available a continuum of services to all students regardless of their gifts or abilities. The gifted and talented students in our schools present a different yet just as challenging an opportunity.

As Catholic educators, we are called to respond to all students. In doing this, we not only affirm the reality of pluralism, but more importantly, we demonstrate that pluralism can, in fact, be dealt with in our Catholic schools. This is in keeping with the teachings of our church which exhort us, as educators, to appreciate and enhance the uniqueness of each person, and thus to challenge each person to the fullest realization of his/her potential.

It is our hope that this book will offer you the information, curricular ideas and resources which will enable you to respond with new understanding and commitment to the needs of gifted children in our schools. It is our belief that our Catholic educators have made significant strides in integrating handicapped children into our schools. It is our further belief that we will be able to reach out to gifted children in a manner that enhances their uniqueness.

In this continuing integration of our students, regardless of their ability levels, we will model to our society that people with different gifts and different needs can learn together. In this truly 'catholic' educational adventure, we can demonstrate that the diversity of pluralism does not have to be problematic and de-energizing, but rather, can be enriching and enhancing.

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1.
The Challenge

Every teacher sees evidence daily that youngsters today are more diverse than ever; for example:

- one student completed a tour of Europe last month; another bought and cooked last night's meal;
- one student accesses information on a home computer; another's initials appear in the top ten of the local video arcade games;
- two students watch TV: one can re-enact all the situation comedy reruns; another can compare the Boston and Dallas Symphony Orchestras.

Each classroom teacher can offer at least twenty more examples. Because of this growing diversity, teachers need to examine more frequently and more closely the students within each class. In this way, awareness grows that every student brings a unique background, individual gifts, and a personal readiness to the learning experience.

From ancient days, education has meant *leading out* the individual potential of each student. Although the form of education and the prior experiences of students have changed, the challenge to educate, to *lead out*, remains.

For the teacher in a Catholic school, the challenge is supported by the call of Scripture (Corinthians) to value all gifts within the body, and to respect those with varied talents.

The philosophy of Catholic education states that students in Catholic schools are respected as unique children of God. As persons they have dignity and value. As a matter of justice, therefore, Catholic educators have a responsibility to meet the unique needs of all students as they attempt to develop their God-given gifts.

The person who accepts a teaching ministry accepts the responsibility to educate students to their fullest potential. To help teachers meet that challenge, this book offers an assessment survey to increase awareness of student gifts. (See Student Survey on next page.) Heightened awareness will motivate the educator to utilize available techniques to maximize learning opportunities for diverse students. Specifically, there is a need to create an environment of challenge for those students who, using only the normal curriculum, have few learning experiences through which they can develop their gifts and talents.

Student Survey

Think of the students in your class or in classes you have had in the past. Which of them exhibit some of the following characteristics?

1. Who in your class uses a lot of big words and uses them correctly?
2. Who in the class knows a lot of information about a variety of topics?
3. Who has a good memory?
4. Who reads a lot of difficult books?
5. Who seems to understand complicated ideas easily and quickly?

These students may be intellectually gifted.

6. Who in your class helps the other students most with their math?
7. Who in your class helps the other students most with their reading?
8. Who in your class helps the other students most with their social studies?
9. Who reads a lot of advanced books about math?
10. Who reads a lot of advanced literature books?
11. Who reads a lot of advanced science books?
12. Who reads a lot of advanced books related to the social sciences?

These students may possess specific academic aptitude in one or more of the subject areas.

13. Who seems to have a lot of ideas or solutions to problems?
14. Who always has different or unique ideas for solutions?
15. Who is usually willing to try new things without being afraid?
16. Who usually appreciates jokes or has jokes to tell?

These students may possess creative or productive thinking abilities.

17. Which students are usually the first to suggest things to do or games to play?
18. Which students usually can explain the rules for games?
19. Who organizes the group when getting ready to play a game or when doing a new activity?

These students may possess leadership ability.

20. Which children produce drawings, paintings, or constructions that are more sophisticated than others?
21. Which children use unique perspectives in their drawings, paintings, or constructions?
22. Which children like to experiment with different media(ums) and/or materials in their drawings, paintings, or constructions?

These children may possess talents in the visual arts.

23. Which children play musical instruments better than most children their age?
24. Which children spend a great deal of time practicing on a musical instrument?
25. Which children enjoy listening to a variety of types of music?
26. Which children can act out a story or play so that it "comes alive" for everyone?
27. Which children enjoy role-playing activities when they are performed in front of a group?
28. Which children are always "performing" to make the class laugh?

These children may possess talents in the performing arts of drama and music.

29. Which children can take apart clocks, radios, appliances, or other mechanical objects and put them back together?
30. Which children can usually fix mechanical objects in the classroom?
31. Which children enjoy building or drawing plans for constructing mechanical objects?

These children may possess mechanical or spatial abilities.

Some children may possess abilities in only one category listed above while others may be gifted or talented in two or more areas.

2. Many Facets of Giftedness

The term "gifted" has acquired many diverse meanings. Sometimes the term refers only to students who exhibit exceptional ability in a specific academic area; sometimes it includes students whose I.Q. exceeds the local norm. "Gifted" may also address qualities such as leadership, creativity, or skills in the performing arts.

For example, the United States Department of Education identifies gifted students as those who have general intellectual ability, specific academic aptitude, creative and productive thinking skills, leadership ability and ability in the visual and performing arts. Another commonly used definition, that of Joseph Renzulli, requires that gifted students exhibit three interacting clusters of traits—above average ability, high levels of creativity, and high levels of task commitment. These two basic definitions with sample characteristics and possible identification methods are presented in Chart 1 (page 4.)

The definition of giftedness is related to the values of a society. For example, a competitive Sputnik-oriented America valued gifts in the areas of mathematics and science. The Catholic educational community states its commitment to values such as prayer, reflection, faith and justice. Accordingly, it should be sensitive to students with special gifts in these areas which may not be sufficiently fostered within the normal curriculum. In addition, every cultural group has its own values which should be reflected in the school's philosophy and curriculum.

Giftedness and needed opportunities are relative; for example, a fifth grader who is reading at the eighth-grade level among peers with like achievement may be sufficiently challenged, whereas that same fifth grader in a class with peers reading at grade level will need challenge beyond the normal curriculum. Moreover, a student with an I.Q. of 130 in a class with a 120-average I.Q. may find sufficient challenge within the normal curriculum, whereas a student with an I.Q. of 130 in a class with a 100-average I.Q. will need to be challenged beyond that class's normal curriculum.

In another example, a science-oriented student living near a university center or museum of technology will need fewer classroom opportunities than a youngster with similar gifts who lives in a remote area.

Because the definition of "giftedness" is varied and relative, each school community should consider which student gifts remain unchallenged in their normal curriculum and determine the focus and objectives for a gifted education program.

Chart I: Matching Definitions, Characteristics and Identifications

Definitions	Sample Characteristics	Possible Identification Methods
A. *U.S. Office of Education (Marland, S., 1971).* Gifted and talented children are those identified by professionally qualified persons who by virtue of outstanding abilities are capable of high performance. These are children who require differentiated educational programs and services beyond those normally provided by the regular school program in order to realize their contribution to self and society. Children capable of high performance include those with demonstrated achievement and/or potential in any of the following areas, singly or in combination.		
1. General intellectual ability	— Advanced vocabulary for age — Large storehouse of information — Quick mastery and recall of factual information — Rapid insight into cause-effect relationships — Ready grasp of underlying principles — Keen and alert observer — Enjoyment of and preference for reading, and for adult level books — Preference for understanding difficult material by separating it into its parts	— Individually administered tests of intelligence such as the *Stanford-Binet, Wechsler* or *Woodcock-Johnson Psychoeducational Battery* — Group administered tests of intelligence such as the *Otis-Lennon, Developing Cognitive Abilities Test (DCAT), Ravens Progressive Matrices, Cattell Culture Fair,* and *The Structures of Intellect Learning Abilities Test* — Tests of critical thinking such as the *Ross Test of High Cognitive Processes* and the *Watson-Glaser Test of Critical Thinking* — Behavior checklists such as the *Learning Characteristics* section of the *Scales for Rating the Behavioral Characteristics of Superior Students (SRBCSS)* — Teacher recommendation with supporting evidence from a behavior checklist or anecdotal

Definitions	Sample Characteristics	Possible Identification Methods
		records — Parent recommendation with supporting evidence from a behavior checklist or anecdotal information — Peer nomination using questions such as the following: a. Who in the class uses a lot of big words correctly? b. Who in the class knows a lot of information about a variety of topics? c. Who has a good memory? d. Who reads a lot of difficult books? e. Who seems to understand complicated ideas easily and quickly? — Self-nomination using an application form and supporting evidence — Assessment of student products such as essays, reports, or displays
2. Specific academic aptitude	**General traits** — Possesses a large store of information about the subject area. — Has an unusually advanced vocabulary about the subject area. — Has quick mastery and recall of information about the subject. — Has insight into the underlying principles and ideas in the subject area. — Reads advanced material in the subject area.	— Individually administered tests of achievement such as the *Peabody Individual Achievement Test* or the *Woodcock-Johnson Psychoeducational Battery* — Group administered tests of achievement such as the *Iowa Tests of Basic Skills, the Stanford Achievement Test* — Specific achievement or aptitude tests in a subject area such as *Key Math* — Behavior checklists such as the *Scales for Rating the Behavioral Characteristics of Superior Students (SSRBCSS)* — Teacher recommendation with supporting evidence from a behavior checklist or anecdotal records — Parent recommendation with supporting evidence from a behavior checklist or anecdotal

Definitions	Sample Characteristics	Possible Identification Methods
		information — Peer nomination using questions such as the following: a. Who would you most like help from in doing your _____(math, reading, science, social studies) homework? b. Who seems to know the most about _____ (math, reading, science, social studies)? c. Who reads a lot of _____(math, literature, science, social studies) books? — Self-nomination using an application form and supporting evidence — Assessment of student products such as - an experiment (science) - a science fair project (science) - a report (science, social studies) - an essay (science, social studies) - a solution to a complicated problem (math) - a geometric construction (math) - a new theory (math, science, social studies) - a book report (reading)
3. Creative or productive thinking	— Displays curiosity about many things, and asks many questions. — Generates a large number of ideas or solutions. — Is sensitive to aesthetic characteristics. — Displays a keen sense of humor. — Is nonconforming and does not fear being different. — Is willing to take risks.	— Tests of creativity such as the *Torrance Tests of Creative Thinking—Verbal and Figural Forms, the Remote Associates Test* — Behavior checklists such as the *Creativity Characteristics Scale* of the *Scales for Rating the Behavioral Characteristics of Superior Students (SRBCSS)* — Teacher recommendation with supporting evidence from a behavior checklist or anecdotal records

Definitions	Sample Characteristics	Possible Identification Methods
		— Parent recommendation with supporting evidence from a behavior checklist or anecdotal information — Peer nomination using questions such as the following: a. Who has the most ideas or solutions to problems? b. Who always has different or unique ideas or solutions? c. Who is usually willing to try new things without being afraid? d. Who usually appreciates jokes or has jokes to tell? — Self-nomination with an application and supporting evidence — Assessment of student products such as poems, essays, stories, displays, books, constructions
4. Leadership ability	— Is responsible, and can be counted on to do what is promised. — Is self-confident with peers as well as older children and adults. — Is well-liked by classmates. — Is well-respected by classmates. — Is cooperative with teachers, classmates, and adults. — Expresses self well. — Adapts readily to new situations, and is flexible. — Enjoys being around other people. — Tends to dominate others when around, and generally directs activities in which he/she is involved. — Participates in clubs and other organizations connected with the school, church, or other agencies.	— Behavior checklists such as the *Leadership Scales* of the *Scales for Rating the Behavioral Characteristics of Superior Students (SRBCSS)* — Teacher recommendation using supporting evidence from a behavior checklist or anecdotal records —Parent or community recommendation (Girl Scout Troop Leader, Boy Scout Troop Leader) using supporting evidence from a bahavior checklist or anecdotal information —Observation of leadership characteristics while on the playground, in the lunchroom, during production of a play, or in structured or unstructured activities in the classroom —Peer nomination using questions such as the following: a. Who is usually the first to suggest things to do or games to play? b. Who usually can explain the rules for games?

Definitions	Sample Characteristics	Possible Identification Methods
		c. Who organizes the group when getting ready to play a game or do a new activity? —Assessment of group products produced by students when he/she was the group leader
5. Visual and Performing Arts	**Visual Arts**	—Assessment of student products such as paintings, constructions, drawings by experts in the medium corresponding to the student's area of interest —Recommendations from individuals knowledgeable about the medium corresponding to the student's area of interest, and supported by evidence from a behavioral checklist or anecdotal records
	Performing Arts	—Auditions before audiences with observation by experts in the field or instrument corresponding to the student's performance area —Recommendations from individuals knowledgeable about the field or instrument corresponding to the student's performance area, and supported by evidence from a behavioral checklist or anecdotal records
B. *Joseph S. Renzulli (1978, p. 261)* Giftedness consists of an interaction among three basic clusters of human traits—these clusters being above-average general abilities, high levels of task commitments, and high levels of creativity. Gifted and talented children are those possessing or capable of developing this composite set of traits and applying them to any potentially valuable area of human performance. Children who manifest or are capable of		

Definitions	Sample Characteristics	Possible Identification Methods
developing an interaction among the three clusters require a variety of educational opportunities and services that are not ordinarily provided through regular instructional programs.		
1. Above-average general abilities	See characteristics listed above in all areas except creative and productive thinking, plus characteristics in other areas such as mechanical, communication, planning, and many others.	—Group and individually administered tests of intelligence, achievement, visual and performing arts ability, and other general areas of human endeavor such as mechanical, planning, communication, and many others such as those listed in the following sections above: general intellectual ability, specific academic aptitude, visual and performing arts —Behavior checklists such as those listed above in the following sections: general intellectual ability, specific academic aptitude, visual and performing arts —Teacher recommendation and recommendations from peers, parents, and others familiar with the student's abilities, with supporting evidence from behavior checklists or anecdotal information as discussed in the following sections above: general intellectual ability, specific academic aptitude, visual and performing arts —Assessment of student products such as those discussed in the following sections above: general intellectual ability, specific academic aptitude, visual and performing arts
2. High levels of creativity	See characteristics listed above in creative and productive thinking ability section.	—See methods listed above in creative and productive thinking ability section.

Definitions	Sample Characteristics	Possible Identification Methods
3. High levels of task commitment	— Becomes truly absorbed and involved in topics and problems of interest. — Is persistent in seeking completion of tasks of interest. — Is easily bored with routine tasks. — Needs little external motivation to follow through on projects or tasks that initially cause excitement. — Strives toward perfection and is not easily satisfied with own speed or products. — Prefers to work independently, and requires little direction from teachers. — Interested in many "adult" problems. — Is often self-assertive, aggressive, or stubborn in beliefs. — Likes to organize things, people, and situations. — Is often concerned with making evaluations of events, people, and things.	—Standardized tests of internal/external motivation such as —Behavior checklists such as the motivational characteristics scale of the *Scales for Rating the Behavioral Characteristics of Superior Students (SRBCSS)* —Teacher recommendation or recommendations from parents or others familiar with the student supported by evidence from behavioral checklists or anecdotal information —Observation of students in a variety of settings such as independent study, developing small-group projects, and others in which there is minimal teacher direction —Interviews with students regarding how they developed certain projects in situations where there was minimal teacher direction

3.
Goals for Educating Gifted Students

The Goals

Gifted education touches the total educational experience. For that reason, goals should encompass all levels—the school, the classroom, the person, and the community. The following recommended goals will be developed within this chapter:

Goal 1. School: To create an educational environment allowing a full range of expression for particular talents.

Goal 2. Classroom: To provide differentiated learning opportunities which are appropriately styled to encourage growth according to varying abilities, interests and needs.

Goal 3. Person: To encourage the development of the student as a person, including self-awareness, self-respect, self-confidence, and self-direction.

Goal 4. Community: To foster the development of sound relationships demonstrated by mutual respect and the acceptance of human differences, and based on service within the community.

Goal 1. School:

To create an educational environment allowing a full range of expression for particular talents.

As a school works toward implementing this goal, it is essential that the faculty and other members of the school community consider and make decisions in two areas: *Organizational Options*, i.e., structures; and *Directional Approaches*, enrichment and/or acceleration.

The options below are school-wide approaches which require overall agreement and planning. Only with joint commitment and decision-making can these approaches be effective.

The options below are not necessarily mutually exclusive, but can be combined in a variety of ways, depending on the needs and resources of the school and local community.

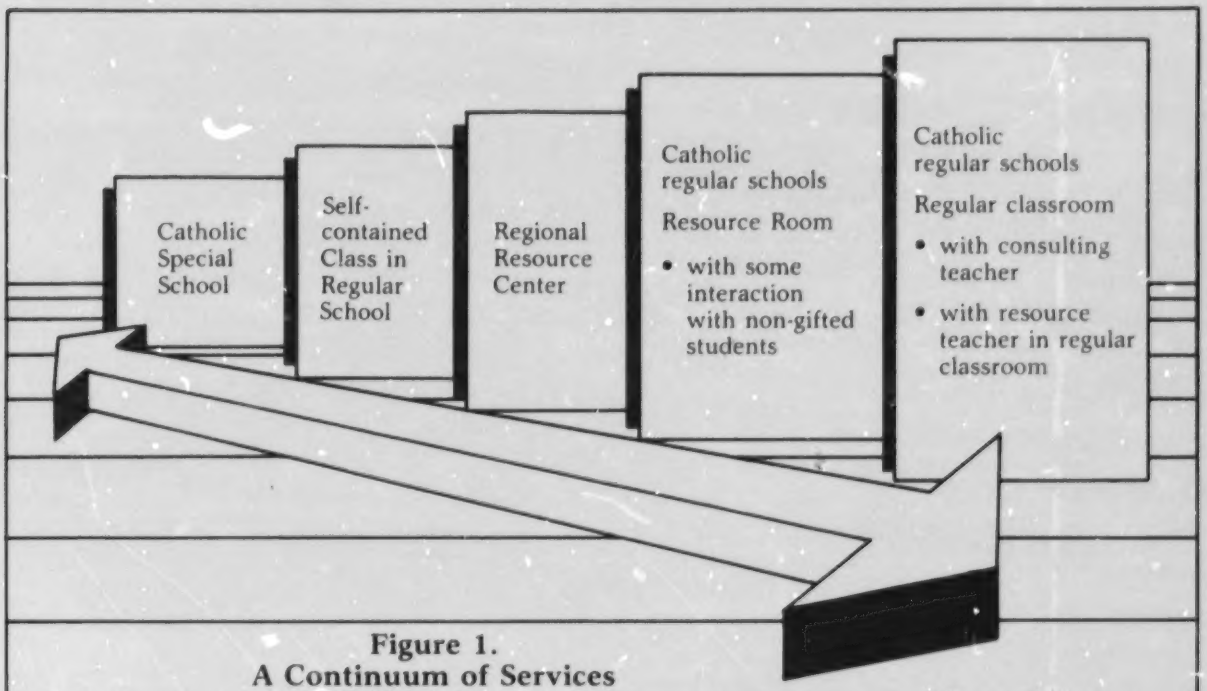

Figure 1.
A Continuum of Services for Gifted Students

Organizational Options

Regular Classroom

Description: Regular classroom organization can offer opportunities to meet the needs of students who are unchallenged by the normal curriculum. This can be done by means of differentiated learning opportunities; e.g., flexible groupings, learning centers, independent study, and other techniques and methods such as those specified under Goal 2. (see page 16 ff.)

Implementation: To enable regular classroom teachers to meet needs effectively requires sufficient inservice training, varied instructional materials, sharing and support opportunities with colleagues, and, if available, volunteer aides.

Considerations:

- little school-wide organization is required;
- gifted students are with their peer group;
- inter-disciplinary study is facilitated;
- differentiated learning activities are integrated with regular classroom activities;
- additional planning time is required;
- the challenge of meeting the needs of highly gifted students must be addressed.

Consulting Teacher

Description: A qualified teacher is available on a regular basis to consult with classroom teachers and to assist with such tasks as identifying students, locating resource materials, planning activities, and demonstrating teaching techniques.

Implementation: Locate a qualified teacher (from local college/university, diocesan office, public school district), or engage a professional from the community, or provide consulting time for a current staff member. Arrange regular opportunities for consultation with teachers.

Considerations:

- makes available a person with expertise in education of the gifted;
- provides ongoing inservice for teachers receiving the consultation services;
- improves the program coordination between grade levels;
- may increase budgetary requirements;
- requires additional consultation and planning time by all classroom teachers;
- requires efficient coordination on the part of the classroom teacher;

- requires cooperation of all teachers.

Resource Teacher in Regular Classroom

Description: A qualified teacher directs learning experiences on a part-time basis for those students from a regular classroom who need special learning opportunities. Provides assistance to the regular classroom teacher to continue differentiated learning experiences for the gifted.

Implementation: Locate a qualified teacher possibly from local college/university, diocesan office, public school district. Arrange a teaching schedule to meet the needs of identified students throughout the school. Provide appropriate materials as well as a teaching station, either within or beyond the specific classroom.

Considerations:

- qualified teacher provides special learning opportunities;
- all students receive more teacher time;
- gifted students have more opportunities to interact within a group of students with similar abilities;
- careful coordination of schedules and lessons is required;
- regular classroom teacher is not directly involved in all special learning opportunities;
- a physical space problem may develop.

Resource Room

Description: A special room within the school, equipped with needed resources, is designed to facilitate a variety of learning experiences. A qualified staff person is available on a full or part-time basis to teach or to guide learning activities and to assist classroom teachers. The room also can provide central resources for teachers.

Implementation: Locate a room and qualified staff person. Provide a variety of materials. Schedule student use of resource room.

Considerations:

- flexibility of student learning activities is allowed;
- a person qualified in the education of the gifted provides teaching/learning opportunities;
- convenient access to a variety of materials is offered;
- a quiet environment for testing can be available;
- all students receive more teacher time;
- gifted students have more opportunities to interact within a multi-graded group;
- careful coordination of schedules is needed;
- the removal of high ability students from the regular classroom is required;
- one more pull-out program is created;
- budgetary requirements may be increased;
- classroom teacher is not directly involved with all special learning activities.

Regional Resource Center

Description: When a specific school cannot meet the needs of special students within its own setting, a center within the geographical region is an option.

Implementation: Several schools can combine resources to establish a regional center, or a diocese may designate centers in appropriate places. In addition, opportunities may be available at a nearby high school, college, or public school.

Considerations:

- learning opportunities otherwise not available can be provided;
- opportunities for broader interaction of students are made available;
- financial obligations are shared;
- learning opportunities otherwise not available locally are provided;
- fewer opportunities for coordination of special learning activities with regular curriculum are available because of geographical distance;
- resource teacher has difficulty providing assistance to regular classroom teachers because of geographical distance;
- transportation and travel time is required for students;
- scheduling difficulties may develop.

Self-Contained/Special Class

Description: A classroom within the school with a qualified teacher serves a selected group of students within one or multiple grade levels.

Implementation: Locate a room and qualified staff person. Provide a variety of materials,

Considerations:

- teacher can more easily provide a challenging environment for entire school day;
- centralization of special materials is facilitated;
- a teacher qualified in education of the gifted directs learning experiences;
- gifted students have more opportunities to interact with a group of students with similar abilities;
- students are separated from their chronological peers;
- the assumption is that the student is gifted in all areas
- budgetary requirements are increased;
- regular classroom students lose the opportunity to relate to peers in special class;
- use of an interdisciplinary approach and the integration of extended learning opportunities with the teaching of basic skills are facilitated.

Special School

Description: A school designed solely to meet the needs of gifted students on a full-time basis.

Implementation: Teachers should be aware of the special schools available in their area so they may make recommendations regarding student placement, when appropriate.

Considerations:

- learning is enhanced when learners are grouped with peers of like ability;
- teacher may more easily provide a challenging environment for entire school day;
- centralization of special materials may be arranged;
- a teacher qualified in education of the gifted directs learning experiences;
- regular classroom students lose opportunity to relate to peers in special class;
- use of an interdisciplinary approach and the integration of extended learning opportunities with the teaching of basic skills are facilitated.

Qualified Teachers

The first organizational option indicates that education of the gifted is possible with present staffing. Many of the other options, however, require selecting specially qualified teachers—either from present staff or as new staff.

Just as certain educators have special ability to deal with slow learners or with junior high youngsters, so too some teachers are especially suited to work with gifted students. The following list of suggested qualifications may be used when seeking a teacher for gifted students:

- Has a philosophy of education consistent with the selected gifted education approach of the school community;
- Has a broad academic background;
- Has demonstrated competency in teaching, and in specific content areas, if applicable;
- Has the following personal qualities:
  - Above-average intelligence
  - Self-confidence
  - Student-orientation
  - Flexibility
  - Openness to change and to different ideas
  - Enthusiasm about the challenge of working with gifted students.
- Possesses the ability and willingness to:
  - recognize and respect the potential of individual students and teachers
  - relate effectively with the particular student group involved
  - confer and work with parents of gifted students
  - communicate well in written and oral form
  - manage a variety of classroom activities
  - work with teachers who use a variety of teaching styles
- Has the skill or willingness to learn the following:
  - to identify gifted students
  - to individualize instruction
  - to assume a variety of roles in teaching
  - to utilize teaching approaches proven effective with the gifted (see section, "Teaching Approaches," page 16 ff.)

Directional Approaches

Regardless of which organizational option is chosen, decisions must then be made concerning the directional approaches for the gifted learner, whether it be horizontal enrichment, i.e., broadening the scope and depth of a particular topic, or vertical acceleration, i.e., moving upward at a rapid pace through learning levels. Ideally the learning will be maximized by integrating enrichment (horizontal) and acceleration (vertical).

Horizontal enrichment could include both external resources, those that come from the community at large, and internal resources, those that are found within the school itself. The scope of the regular curriculum is broadened to extend beyond the regular curriculum and into the community.

The second direction for challenging the gifted would be to use some form of acceleration.

Let us take a closer look at each of these directions—enrichment and acceleration.

Enrichment

Description: The type of enrichment discussed here is an extension of the student's learning into the community which entails broader decision-making than that needed for individual classroom planning and also requires intra-building coordination. This kind of enrichment involves movement within, between, and among grade levels. External or internal resources are employed.

Implementation: Some ways of implementing this type of enrichment might be:

- mentor—an expert in a career field or other area of interest who serves as a guide and role model to a student on a one-to-one basis;
- internship—for a specified period of time an adult in a career field guides a number of young people;
- "shadow" experience—a student follows a community person through the daily routine of the job;
- museum programs—programs which teach a complete unit on a given topic, i.e., Indians, mining, or works of a given artist;
- artist/poet-in-residence grants—funded by a grant from the National Arts Council or some similar group, an artist may spend a period of time such as a semester working at a particular school;
- art institutes—centers where students may attend art classes, visit exhibits, or study works of art;
- university programs—special programs for the gifted taught by college and university professors such as the Talent Search Programs;
- speakers—community people with expertise in a particular area speak to the students working on a special project (e.g., architect, accountant, pharmacist);
- independent study—students work independently on a project with stated objectives, activities, resources, and evaluation, in conjunction with a resource person from the community;
- art appreciation—programs such as "The Picture Lady Program" designed for trained volunteers who present lessons on works of art in a planned sequence from K-8;
- professional musicians—ensembles from local symphonies or college orchestras present mini-concerts in the school or students attend special symphony concerts performed for school children;
- retired persons—these persons can work with students in the area of their expertise.

Pros—

Some advantages to this direction might be the following:

- many opportunities exist outside the limited resources of the individual school;
- learning and life are integrated;
- exposure to varying viewpoints occurs;
- great variety of topics and skills can be introduced to students;
- an increased depth to learning is possible

Cons—

Some disadvantages to this direction might be the following:

- a large amount of time is needed to make necessary arrangements;
- a great deal of energy can be expended in management of details such as time, place, and size of group;
- it is difficult to evaluate the effects of a program;

- there are budgetary constraints;
- factors such as safety, liability, and limited availability of chaperones can be problems.

Acceleration

Description: Acceleration can be described as moving a student more rapidly through a sequence of learning experiences in one, some, or all areas of schooling.

Implementation: Some ways of accelerating might include:

- early entrance into kindergarten, junior high, or high school or college—such a student enters an advanced grade at an early age;
- advanced courses at a nearby junior high high school or college—for example, eighth grade advanced math students enroll for algebra classes in the high school as part of their regular day;
- cross-age or grade placement, i.e., students are placed in ability groups at appropriate levels of achievement rather than remaining at age or grade level; for example, a third grader reading at the fifth grade level would be sent to the fifth grade classroom for reading;
- grade-skipping, e.g., a student is promoted from fourth to sixth grade;
- telescoping or compacting of content, e.g., a course is condensed into a shorter time period, e.g., a one year's course into one semester.

Pros—

Some advantages in accelerating include the following:

- more nearly matching students with intellectual peers;
- instruction more nearly matches learning rate;
- elimination of unnecessary drill or repetition;
- allowance for students to take advanced placement courses.

Cons—

Some disadvantages in accelerating include the following:

- possible social and emotional difficulties may be encountered if the maturity of the student is not carefully considered in placement decisions;
- possibilities for in-depth study may be limited since the time the students would receive formal instruction is decreased;
- the discrepancy between physical requirements of a higher grade level and a student's advanced intellectual ability may cause social difficulties;
- gross motor and/or fine motor skills required at the higher grade level,if different from the intellectual skills required, may present practical classroom difficulties.

Goal 2. Classroom:

To provide differentiated learning opportunities which are appropriately styled to encourage growth according to varying abilities, interests, and needs.

Teaching/Learning Approaches

Differentiating Learning Activities

(The material presented in this section is based on Curriculum Development for the Gifted *by C. June Maker, Rockville, Maryland; Aspen Systems Corporation, 1982. It has been summarized and adapted by the author.)*

The phrase most frequently used to describe the appropriate school curriculum for gifted students is "qualitatively different from the program for nongifted students." This phrase implies that the basic curriculum must be examined, and changes or modifications must be made so that the most appropriate curriculum is provided for the gifted students. Modifications must be qualitative and not simply quantitative. In other words, the assignments must be different and more challenging. Simply requiring gifted students to do another report or another set of worksheets is not only nonhelpful, but also detrimental. These modifications must build upon and extend the characteristics (both present and future) that make the children

different from nongifted students.

According to Gallagher (1975), to make the basic curriculum more appropriate for gifted students, a person can modify the content (what is learned), the process (the methods used and the thinking processes students are expected to use), and the learning environment (the psychological and physical environment in which the learning is to occur). Renzulli (1977) has added product (the end products expected of children as a result of the processes used) as a dimension that must be considered.

Content Modification

The content of the curriculum consists of the ideas, concepts, descriptive information, and facts that are presented to the student. It can assume a variety of forms and can differ in its degree of abstractness, complexity, the way it is organized, and the subject areas covered.

(1) Abstractness

The major focus of discussions, presentations, reading materials, and lectures in a gifted program should be on broad concepts and generalizations—ideas that have a wide range of applicability or that transfer both within and across subjects or fields of study. Concrete information and factual data are needed as illustrations or examples of the abstract ideas but are not the major focus.

Example:

Elementary grade topic: dinosaurs

Regular curriculum activity: types of dinosaurs

Differentiated activity for the gifted: the relationship between dinosaurs and their environment, possible reasons for their extinction.

(2) Complexity

Usually abstract ideas are also complex, but they vary in their degree of complexity. The broad ideas and concepts presented to gifted students need to be as complex as possible for each student. The complexity of an idea can be determined by examining the number and diversity of the disciplines or traditional content areas that must be known or integrated to fully understand the idea.

Example:

Elementary grade topic: music

Regular curriculum activity: learning the words and tune of the song.

Differentiated activity for the gifted: the history of the period in which the song was written, the life of the composer, the literature written and the scientific developments occuring at that time, the social climate at that time, the values of the people at the time.

(3) Variety

The concept of variety suggests that in a gifted program, ideas and content areas not taught in the regular curriculum should be taught.

Example:

Elementary grade topic: angles in geometry

Regular curriculum activity: how to draw angles, how to measure and bisect angles.

Differentiated activity for the gifted: the relationship between the drawing of angles and playing marbles or playing pool, the use of angles in constructing a geodesic dome, use of angles in ancient cultures, use of angles in physics, use of angles in quilting, sewing, or tiling.

(4) Organization

Content needs to be organized to facilitate transfer of learning, memory, and understanding of abstract concepts and generalizations. According to Bruner (1960), these results can be achieved if the content is organized around the key concepts or abstract ideas to be taught rather than arranged in some other fashion.

Example:

Elementary grade topic: the American Revolution

Regular curriculum activity: the events, dates, and people involved in the American Revolution.

Differentiated activity for the gifted: the similarities and differences in revolutions at different periods of history (e.g., the Cuban Revolution, the Bolshevik Revolution, the French Revolution); the causes and effects of revolutions.

(5) Pacing

Content or new material should be presented

to gifted students more rapidly than usual.

Example:
Elementary grade topic: any subject area, especially math, spelling, and grammar

Regular curriculum activity: pre- and post-testing for understanding of the material in a unit or chapter.

Differentiated activity for the gifted: Usually students will demonstrate mastery of most of the content of a unit on the pre-test, then the teacher can provide an introduction to the concepts not understood by the students. They can be given the option of beginning to work on the next chapter or unit (acceleration), or studying a related topic not usually included in the curriculum (enrichment).

Process Modifications

The process aspect of the curriculum involves the way new material is presented, the activities in which the students engage, and the questions that are asked. Process includes teaching methods and the thinking skills or processes developed in the students.

1) Questioning Strategies

The questions asked of gifted students should stress the use rather than acquisition of information. In most cases, gifted students can rapidly and almost effortlessly acquire information; they should be expected to apply this new information in new situations, use it to develop new ideas, evaluate its appropriateness, and use it to develop new products.

Example:
Elementary grade topic: insects

Regular curriculum activity: What are the parts of an insect? What are some types of insects?

Differentiated activity for the gifted: How are the parts of an insect similar to the parts of other animals? How are they similar to people? How are the parts of insects different from the parts of other animals? How are they different from people? Why do insects need to be different? How does the environment influence the development of any species of animal? What are the most important environmental influences on the development of animals?

2) Open-endedness

Questions and activities for gifted students should include a greater percentage of open rather than closed questions and learning activities. The principle of open-endedness indicates that there is no predetermined right answer and that the questions or activities are provocative in that they stimulate further thinking and investigation about the topic. Openness stimulates more thought, permits and encourages divergent thinking, encourages responses from more than one child, and contributes to the development of a student-centered interaction pattern.

Example:
Elementary grade topic: fairy tales

Regular curriculum activity: students identify the main characters and the major theme(s) in several fairy tales; questions include: Who were the major characters in Cinderella? What happened in the story? What was the major theme in Cinderella? Who were the major characters in The Three Bears? What was the theme of the story?

Differentiated activity for the gifted: Students compare the characters in a fairy tale to people they know, compare and contrast the characters in different fairy tales and decide which characters are most like themselves. Teacher questions might be, for example, How is Cinderella like someone you know? How is Goldilocks like someone you know? How were Goldilocks and Cinderella alike? Which fairy tale character is most like you?

3) Discovery

The activities designed for gifted students should include a greater percentage of situations in which the students use their inductive reasoning processes to discover patterns, ideas, and underlying principles.

Example:
Elementary grade topic: countries of the world

Regular curriculum activity: the teacher explains that the major cities in Australia are on the coast, then shows a film or filmstrip about these major cities and ports and then asks students to name and describe the cities and ports.

Differentiated activity for the gifted: the teacher shows films or filmstrips about major cities and ports of Australia, New Zealand, and South Africa; then asks students to make general statements about (1) how cities develop in a country, (2) the relationship(s) between cities and the climate, natural resources, and geography of the country; and next asks students to provide specific information from the films or filmstrips that supports their general statement.

4) Evidence of Reasoning

Another important process modification tp be used with gifted students is to ask them to express not only their conclusions but also the reasoning that led them to these conclusions. This aspect of teaching is especially important when using a discovery approach, developing higher levels of thinking, and asking open-ended questions. Using this strategy, students learn different reasoning processes from other students, and they are encouraged to evaluate both the process and products of others' thinking. It also provides a vehicle for the teacher to assess the student's levels of thinking.

Example:

Elementary grade topic: any topic as listed above

Regular curriculum activity: The teacher asks a factual question or one requiring comprehension of the material.

Differentiated activity for the gifted: After students have given answers to open-ended questions, answers to questions requiring higher levels of thinking, or have made general statements regarding principles they have discovered, the teacher asks them to explain their reasons or the reasoning process that led them to the conclusion or answer. Following are some examples taken from the other activities in this section:

1. What are the most important environmental influences on the development of animals?
   Why do you think the climate is one of the most important environmental influences?
   How do you see other animals as being important influences?
2. Which fairy tale character is most like you?
   How are you like Cinderella?
   Why do you think you are most like Baby Bear?
3. Students have made the generalization that "major cities in a country tend to develop near a river or other body of water" as a result of the teacher's asking them to make a general statement about how cities and ports develop in a country. What reasoning did you use in reaching that conclusion?
   Why is (or was) a body of water so important in the development of growth of a city?

5) Freedom of Choice

Whenever possible, gifted students should be given the freedom to choose what to investigate and how to study. Their interest and excitement in learning will be increased by such techniques. However, not all gifted students are independent learners, so they may need assistance in making and executing their choices.

Example:

Elementary grade topic: the saints

Regular curriculum topic: describing the saints and their important qualities.

Differentiated activity for the gifted: Students are encouraged to do further study of related topics, and are allowed to choose a topic and the methods they will use to study it. For example, a student might want to study a particular saint, write a monologue of a speech given by that saint, and present the monologue as if he or she were that person. Another student might be interested in the definition of "saintliness," and might interview teachers, their parents, a priest, and one of their friends, then write an essay on the different definitions of the term "saint."

6) Group Interaction

Gifted students should be provided with structured and unstructured activities that permit, facilitate, and require interaction with other students, both gifted and average. These activities should include opportunities for observation, discussion, and critique of the behavior of oneself and others.

Example:

Elementary grade topic: oral communication skills

Regular curriculum activity: A student presents a report to the class, and the class members discuss what was good about the report as well as what

could be done to improve it.

Differentiated activity for the gifted: Students are divided into small groups of not more than 10 students. Each small group is then divided into two groups—one called the "inner" group and one called the "outer" group. The inner group is given a complicated problem to solve. While the problem is being solved by the inner group, the outer group is observing how well the members of the inner group are communicating with each other (e.g., listening, speaking clearly, taking turns). When the inner group has solved the problem, it discusses its own communication skills. When it has finished this self-analysis, the outer group adds its observations. Next, the "old" outer group becomes the "new" inner group, and is given a similar problem to solve. The process is repeated. In addition to being given problems to solve, inner groups could be given role-playing situations to act out such as a family argument, an argument on the playground, or an activity in which the group must reach a consensus. If a tape recorder is available, taping is often helpful as an accurate record of what happened. Sections can be replayed for analysis.

7) Variety

The teacher should use various methods to maintain the interest of the children and to accommodate the different learning styles of the students.

Example:

Elementary grade topic: vocabulary development

Regular curriculum activity: Students are given a list of vocabulary words to look up and write the definitions.

Differentiated activity for the gifted: Students are told to find Latin, Greek, French, or Spanish words that are similar in origin, structure, or meaning. They compare the origin, structure and/or meanings of these words to determine similarities and differences as well as the possible reasons for these likenesses and differences.

Product Modification

Products are the "ends" of instruction. They can be tangible or intangible, sophisticated or unsophisticated. Sophisticated products involve detailed, original work, while unsophisticated ones involve paraphrasing or copying. Products can include reports, stories, plays, dances, ideas, speeches, pictures, and illustrations. The products expected from gifted students should resemble the products developed by professionals in the discipline being studied (Renzulli, 1977). These professional products will differ from typical student products in the following ways:

- Real problems—The products developed by gifted students should address problems that are real to them. Students can be allowed to choose a specific area of concern within a certain field of study and to design an investigation around that area.
- Real audiences—To the extent possible, the products developed by gifted students should be addressed to real audiences, such as the scientific community, the city council, or a government agency. These students should not be developing products that are only seen or heard by the teacher. If real audiences are not available, other students can make up a simulated audience.
- Transformation—Gifted students' products should represent transformations of existing information or data rather than being mere summaries of other people's conclusions. Original research, original artwork, and other such products should include the collection and analysis of raw data. If students have used their higher levels of thinking, they must produce a product that is a true transformation.
- Realistic Evaluation—Often, student products are only directed toward and evaluated by the teacher. The products of professionals are evaluated by the audiences for whom they were intended. Products of gifted students should be evaluated by appropriate audiences, including simulated audiences of peers. Students should also be encouraged or required to complete an extensive self-evaluation of their own products.

Example:

Elementary grade topic: the four food groups and their importance in health

Regular curriculum activity: Students study the four food groups and write a report about why each is important to good health.

Differentiated activity for the gifted: After students in a class studied the four food groups, they became interested in an issue (real problem) in their school—students disliked the food served in the cafeteria. They decided to investigate the problem and try to convince the principal and cafeteria staff (real audience) that changes needed to be made. They first did a survey of students' likes and dislikes by distributing a questionnaire (collected raw data), and then observed students in the lunchroom to see what foods were thrown away most often. They also found out the rules and regulations that must be followed by schools when choosing foods to serve as well as the budget limitations of the school. They then analyzed all this information and developed a plan for making changes in daily menus that would include more foods that students liked and didn't throw away, but would still meet the state requirements for food service and cost the same or less than the foods that were previously being served (transformation). This plan was evaluated by the principal and staff of the cafeteria, and students were given an assessment of the strengths and weaknesses of their plan (realistic evaluation). Since it was seen as one that could be effective, it was adopted, and after a trial period of a month, students were surveyed again about their preferences and observed to see what foods they now threw away (realistic evaluation). This information was collected and assessed to determine the effectiveness of the plan (self-evaluation).

Learning Environment

The learning environment refers to the setting in which learning occurs—both the physical setting of the school and classroom, and the psychological climate of the classroom. There are many dimensions of learning environments that are important, and different individuals have different preferences for certain aspects (for example, amount of noise, light, or presence of color). The learning environments appropriate for gifted students resemble the environments appropriate for all children, but are different in degree. All environment modifications presented in this section were chosen because they met the following three conditions: (1) they are preferred by the gifted as a group; (2) they are necessary for implementing the content, process, and product modifications advocated; and (3) they build on the characteristics of gifted students.

1) Student-Centered versus Teacher-Centered

Environments for gifted students should include a focus on the students' ideas and interests rather than on those of the teacher. There should be a high degree of emphasis on student discussions rather than on teacher talk, and patterns of interaction and discussions should seldom, if ever, have the teacher as the central figure or focus.

Example:

Elementary grade topic: the solar system

Regular curriculum activity: The students study the planets and how they orbit the sun. They read an assigned chapter in their textbook and then answer questions at the end of the chapter.

Differentiated activity for the gifted: The teacher asks students to list the questions they would like answered about the solar system. These are written on a chart or blackboard. Students are then asked to discuss the questions and decide which ones they would like to study as a group. Later, individuals or small groups can choose other questions to study. Rather than having students simply answer questions at the end of the chapter, the teacher and/or students design "provocative" questions which can be presented to the group for discussion such as: What are the pros and cons of space exploration? What evidence is there to indicate that there may or may not be life on other planets? Why do you think people are so interested in science fiction stories about "outer space? Why is it important to study the solar system?

2) Independence versus Dependence

This dimension of the environment refers to the degree of tolerance for and encouragement of student initiative. The focus is on having students solve their own problems rather than having the teacher solve all the problems, including those related to classroom management.

Example:

Elementary grade topic: working together in a classroom on any topic

Regular curriculum activity: Students are arguing about which group will use a particular reference book first. The teacher solves the problem by listening to both sides and deciding that the only fair thing to do is for them to flip a coin.

Differentiated activity for the gifted: When students are arguing, the teacher stops the argument and asks the students involved (and others who are affected by the decision) to (1) list all the facts about the situation, (2) decide what the problem is, (3) brainstorm possible solutions, (4) select a solution that would satisfy both groups, and (5) develop a plan for implementing the solution chosen. The students' rather than the teacher's solution is then implemented.

3) Open versus Closed

This aspect of the environment refers to the extent to which restrictions affect the student and goes beyond academic into nonacademic areas. The physical environment needs to be open to permit new people, materials, and things to enter. The same is true of the psychological environment. It must permit new ideas, exploratory discussions, and the freedom to change directions to meet new situations.

Example:

Elementary grade topic: examples above for the saints, the four food groups, and the solar system

Regular curriculum activity: The information students use in their studies is often confined to the textbook or to resource materials selected by the teacher.

Differentiated activity for the gifted: In the examples cited above for the gifted, the information comes from a variety of sources, including those selected by the students. Other people may be interviewed by a student individually or invited to speak to the whole class. Exploratory discussions in which there are no right or wrong answers are also encouraged.

4) Accepting versus Judging

There are three major elements of this dimension: (1) attempting to understand students' ideas; (2) the timing of value judgments; and (3) evaluation rather than judgment. Before teachers can assess student ideas, they must accept and understand those ideas, that is, they must attend or listen actively, accept the ideas, and then request clarification, elaboration, and extensions of the ideas before challenging them. Timing refers to the stage of problem solving when evaluations occur. Idea production, for example, is one of the most inappropriate times for evaluation to take place. Judgment implies rightness or wrongness, while evaluation implies that an assessment will recognize both the good and bad aspects of any product or person. Evaluation should be emphasized rather than judgment.

Example:

Elementary grade topic: examples above for discovery (p. 18), products (p. 20), independence (p. 21).

Regular curriculum activity: The teacher often responds to student answers to questions by saying, "That's right," "That's wrong," "That's a good idea," "That's not a very good reason," or a similar statement.

Differentiated activity for the gifted:

1. Accepting before challenging. In the example above for discovery, the teacher asks students to make general statements about how cities develop in a country. Following are some answers students might give and the ways the teacher needs to respond.

Student A: Cities always grow up near the coast.

Teacher: That's interesting. Let's look at that idea.
- What do you mean by "near"? (accepting) (clarifying)
- What information do you have that leads you to believe that cities always develop near coast? (challenging)
- What leads you to believe this is true of all cities?

Student B: I think cities usually grow up near a major source of transportation.

Teacher: Hm-m..That's an idea we need to explore further.
- What are some examples of "major sources of transportation"? (elaboration/extension)

- How does your statement relate to (Student A's) idea?
- Why do you think that major source of transportation plays such an important role in the development of cities? (challenging)

2. *Timing of evaluative statements.* In the independence vs. dependence example above, the most inappropriate time for the teacher (or anyone) to evaluate an idea is at step 3, "brainstorm possible solutions."
3. *Evaluation vs. Judgment.* In the example above for products, after the students had developed their plan for the serving of cafeteria food, the principal and cafeteria staff were asked to provide an assessment of the strengths and weaknesses of the plan.

5) Complex versus Simple

As a dimension of classroom climate, complexity versus simplicity refers to both the physical and the psychological environment. A complex physical environment, which is necessary for the gifted, includes a variety of materials, references, and books; a balance of hard and soft elements; and a variety of colors. A complex psychological environment, which is also necessary for gifted students, includes challenging tasks, complex ideas, and sophisticated methods.

Example:

Elementary grade topic: math

Regular curriculum activity: students have an assigned mathematics textbook.

Differentiated activity for the gifted: Students may have an assigned textbook, but they are expected to read materials from several supplementary books, and they have available a variety of resources such as the following: books on calculus, trigonometry, and math in our daily lives; materials such as slide rule, protractor, compass, and construction materials.

6) High Mobility versus Low Mobility

This dimension of the environment refers to the amount of movement allowed and encouraged. To permit gifted students to develop professional products, allow freedom of choice, and permit exploration, the environment must allow movement in and out of the classroom, different grouping arrangements within and outside the classroom, and access to different environments, materials, and equipment.

Example:

Elementary grade topic: the four food groups and their importance in health (example from the product section above)

Regular classroom activity: Students usually stay in the classroom and often stay in their seats to work on assignments.

Differentiated activity for the gifted: Students conducted a survey of other students' likes and dislikes, which required that they go to other classrooms to hand out and collect their questionnaire. They also observed which foods were thrown away most often, which necessitated a study in the lunchroom. They secured a listing of regulations from the principal's office.

Summary

The changes advocated in this section have been chosen to meet, collectively and individually, two basic criteria that are different in quality from the regular curriculum and based on the unique characteristics of gifted students. Since these elements were chosen based on the group traits of gifted students, the curriculum for each child needs to reflect the fact that not all will possess every characteristic. Thus, the curriculum must be tailored to fit the needs of each child based on an assessment of that child's characteristics.

Classroom Management

Classroom management is critical for successful teaching, whether or not gifted students are involved. Basically, the elements are the same when learning activities are differentiated for the gifted. This section will treat classroom management under five aspects: student grouping, time, materials, space, and teaching qualities.

While theoretically these aspects can be considered separately, in practice they will necessarily interrelate in the everyday classroom.

Student Grouping

In any classroom the students are at varying points on a continuum with respect to interests, abilities, needs and achievements. Well planned use of student groups will enable the teacher to meet more effectively the needs of the gifted as well as all others in the classroom. Different-sized groups can achieve different ends.

Total Class—When introducing a new lesson, a teacher might state the objectives, give some background information, pre-test the students or direct any other learning activity that might be effective within that setting.

Small Group—The small groups may be formed on the basis of need, interest or ability.

- Need—for example, following a pre-test, students who need further help on a specific skill will work as a group.
- Interest—for example, when a class is studying a unit in medieval history, groups may be formed for specific interest in knighthood, music, cathedrals, etc.
- Ability—for example, students who are especially capable of learning certain concepts may complete the unit in a shorter period of time.

Small groups—whether formed on the basis of need, interest, or ability—lend themselves to a variety of activities. For example, one group may be instructed by a teacher while another group of students interact with each other on a given topic or project, and yet another group of students may be directed to complete an assignment.

In this way small groups can facilitate the use of differentiated assignments based on the needs, interests, and abilities of gifted and other students. For example, in grammar a teacher may assign one group five sentences to identify subordinate clauses and another group to write five original sentences containing subordinate clauses. In math, a teacher may assign a set of problems in addition of fractions involving the finding of a common denominator and assign another group to make up and solve a set of problems in addition of fractions involving the finding of a common denominator.

Individual—When one student demonstrates unique interests, needs or abilities, the most effective option may be to allow that student to pursue an area individually. Teacher and student would cooperatively plan this learning venture and evaluation. Management tools may be "learning activity packets" or the use of individual study contractsIf certain types of grouping or individualizing are unfamiliar to parents, it would be advantageous to explain the benefits of these approaches.

Time

To meet the needs of gifted students requires effective management of teacher and student time.

Teachers—While carefully directing, monitoring and evaluating the work of gifted students, teachers usually need to devote less time to their formal instruction. So teachers are encouraged to remain flexible in the use of time.

Students—Ordinarily diocesan requirements for a subject area are specified in terms of minutes. With gifted students, however, it is often more practical to measure learning in terms of the stated objective rather than by the time required. Flexible use of learning time can also allow compacting or telescoping, e.g. condensing a year's course into a semester. If the teaching of basic skills is compacted or condensed, more time is available for extended learning opportunities (enrichment). In communicating with parents, it may be necessary to give the rationale for this approach, explaining that gifted students are ordinarily characterized by a high level of task commitment.

Materials

Special efforts to meet students' needs, interests and abilities will necessitate a diversity of learning materials organized for effective use.

- Variety—A set of learning materials for use by gifted students will never be complete. It must necessarily change to match the current pursuits of the students. Learning materials may include reference books, periodicals, lab equipment, manipulatives, A-V materials, maps, globes, and computer programs. Varied projects may require the availability of graphic or other artistic materials.
- Organization—Within the classroom these materials need to be organized and readily available for student use. Simple methods may

include a card file, special shelves, tote baskets, and color coding. Resource materials need not be limited to those in the classroom; procedures should be developed to allow student access to materials located elsewhere in the school building.

[redacted]

Classroom management requires planning and efficient use of space for students, teachers, and materials.

- Students—In making decisions about classroom space for gifted students, the teacher should consider four factors:
  - Ease of student movement (ability to reach and use required learning materials with little disturbance of other students;)
  - Suitability for the learning activity (chalkboard for math work, desk area for writing, comfortable chair for reading, etc.;)
  - Placement conducive to concentration (apart from other dynamic activities.)

These criteria may be met by carefully placing student desks, by planning work stations, or in a variety of other ways.

- Teachers—No one position in the classroom is ideal for all teaching activities. Several teaching stations may better suit the situation. In designing such stations, teachers should consider the number of students involved, the materials needed, and the nature of their role, i.e., instructing, monitoring, guiding. Some teacher tasks may be most effectively done from a desk, others from a rocking chair, still others between rows of student desks. Ordinarily teachers will use a shorter, but very direct contact time with gifted students and will require only a simple nearby teaching station.
- Materials—Thoughtful placement of materials can save many steps and eliminate much distraction. Resource materials may be placed in bookcases, carrels, extra desks, or on tables or windowsills. Accessibility to the student users is key. Moreover, the organization should be obvious lest much time be lost in random perusal.

Learning centers equipped with materials suitable for current activities may offer convenient, effective student access to materials that can enrich and challenge beyond the ordinary textbook.

[redacted]

Just as teachers utilize certain materials or classroom space for maximum effectiveness, so too they should draw heavily on certain of their own teaching characteristics when dealing with gifted students:

- recognition of and respect for the gifts of individuals;
- interest in developing the potential gifts of students;
- willingness to spend time in planning differentiated learning activities;
- willingness to increase the use of teaching techniques proven effective with the gifted (see section, "Teaching Approaches");
- openness to change and to different ideas;
- flexibility required by variety of materials, mobility of students and the unpredictability of the direction and rate of learning;
- ability to keep complete, concise and accurate records of student activities and progress

Goals 3 and 4. Person and Community

Goal three (3) is aimed at the development of the person, whereas goal four (4) is aimed at the development of the person in relationship with others. These two goals will be dealt with in tandem, recognizing the fact that individual personal development and development in human

relationships are interrelated. Personal growth does not occur in a vacuum; rather, it takes place within the dynamic of human interaction.

Research indicates that gifted students display certain characteristics or tendencies. Some of these tendencies, such as perfectionism, nonconformity, and self-criticism require the teacher to pay special attention to the development of an individual's positive self-concept. On the other hand, such tendencies as tenacity in one's own beliefs, self-assertiveness, and preference for independence in work and thought, make it imperative that the teacher assist the student in balancing self-needs and wants with the needs and wants of others.

The following ideas and techniques related to goals three and four may help the teacher foster student personal development as well as assist the gifted learners to grow in relationships.

Goal 3. Person:

To encourage the development of the student as a person including self-awareness, self-respect, self-confidence, and self-direction.

To differentiate curriculum in this area, the teacher can utilize the following techniques to develop the skills and insight of the gifted learner:

- reflection on individual values using such ideas as forced choice ladders, magic circles, and gospel passages;
- journaling using some adaptation of the Ira Progoff techniques;
- personality-qualities assessment using inventories such as *Myers-Briggs Personality Inventory* or the *Geier and Associates Personality Inventory* for children;
- stress management using relaxation, tension-reduction exercises and effective time management;
- self-expression through art, writing, dialoguing with self, and verbal expression of feelings and needs;
- goal-setting through use of calendars, outlining, and small pocket notebook daily goals;
- prayer experiences using meditation, centering, and imaging.

Goal 4. Community:

To foster the development of sound relationships demonstrated by acceptance of human differences, by mutual respect, and by service within the community.

The thrust of this goal is to expand the dimension of goal three to include the dimension of community. The following ideas and techniques will assist the teacher of the gifted learner toward achieving this end:

- reflection on group values through examining gospel passages;
- future problem-solving activities;
- creative problem-solving using techniques described by Parnes, or Olympics of the Mind which is an extracurricular school program that provides mental competition through creative problem solving;
- conflict-management using small group interactions, listening and assertiveness skills, and meditation exercises;
- service-oriented projects in which all involved are enriched by the mutual exchange; this may be possible with nursing home and hospital volunteers, and Girl or Boy Scouting activities.

Freedom for the gifted student to select the most effective learning experience within the community is important.

The above are not to be considered an exhaustive list of possibilities for differentiating curriculum for the gifted in the areas of inter- and intrapersonal development, but rather as suggestions to add to the teacher's own ideas.

The development of persons, especially in rela-

tion to one another, is of significant importance at this time in human history. Human society now has the power to destroy itself. This has become a reality because humankind has not developed into a true global community. And it is only as a global community that humanity will survive together.

One question that flows from Goals three and four is: How do human development and mutual human relationships relate to a sense of global community? Or, in more concrete terms, the questions are: What role will gifted students play in the development and survival of the global community? How can Catholic educators consciously and actively enhance the personal and interpersonal skills necessary for building a sense of global community? Gifted students have the potential for making a significant and unique contribution in bringing about such a global awareness/ understanding.

4. Identification of Gifted Students

Certain differences in definition of giftedness have implications for the assessment process. The United States Office of Education (USOE) definition, for instance, focuses somewhat on areas in which an individual may be gifted, suggesting categories of ability as well as characteristics of the gifted. Renzulli's definition, on the other hand, focuses on three clusters of characteristics that all gifted people must possess regardless of the area in which their ability is expressed.

When designing an assessment process, if the USOE definition is used, one must (1) develop a list of characteristics of those with "demonstrated achievement and/or potential ability" in each of the areas, (2) devise or select measures of these characteristics, and (3) assess children to determine whether they possess the characteristics. If the other definition is used, the general description of the characteristic is present, and one needs to first develop or select ways to measure the characteristics and then assess the children.

Another difference in the definitions is the issue of types or categories. The USOE definition includes six types of ability, and suggests that an individual can be gifted in one or more of the areas. Renzulli includes three clusters of traits in his definition, but states that all three must be present to produce gifted behavior. When using the USOE definition, then, one needs to develop separate criteria for each of the six areas, and consider a student to be gifted if he or she meets the criteria in any one of the areas. If Renzulli's definition is used, a student would need to meet the established criteria in all areas to be considered gifted.

The USOE definition is currently the most popular. Most states have adopted some form of this definition (Karnes & Collins, 1978), or have included certain aspects of it (Gallagher, Weiss, Oglesby, & Thomas, 1982). Twenty-eight states reported a definition including all five of the categories in the latest federal definition. With regard to the specific categories, the majority of states include intellectual ability, most include academic ability, three-fourths include creativity, and two-thirds include leadership and giftedness in the visual and performing arts. Renzulli's definition has become popular with many school districts, although some are wary of using "task commitment" or motivation

as one of the criteria for labeling a student as gifted. The belief is that the other two clusters of traits must be present, but that task commitment can be developed or develops naturally as one becomes interested in an area of study. Regardless of the definition used, one principle remains important: assessment procedures must be consistent with and derived from the definition.

The most effective and efficient assessment process is one that includes two or three "levels." A three-level process will be described here. It is possible, however, to combine referral and screening.

Referral

(The terms referral, nomination, and recommendation are used synonymously in this section.)

The purpose of referral procedures is to use as many sources as possible to assure that all students who may be gifted are recognized. Referral procedures also serve the purpose of limiting the number of students who receive further testing or observation. Sources for referral include parents, teachers, administrators, students, self, counselors, specialists, artists or other professionals who may be familiar with a student's ability, and other community members.

For the process to be effective, however, individuals who are asked for referrals must be given information about the specific characteristics of a student who would be considered gifted. Such information can be provided through inservice training and other staff development activities, presentations to community groups, and publicity notices in newspapers or on the radio. Information can also be provided through the checklists or other forms that individuals who are making nominations are asked to complete when they provide the name of a student they believe is gifted.

In addition to education and the use of checklists, interviews are often helpful. Individuals who have provided a referral could be interviewed for further information to substantiate the nominations, or interviews could be conducted to secure the initial referrals. Maker, Morris, and James (1981), for example, suggest that peer referral be conducted in this way to minimize student referrals based on popularity, and to collect a maximum amount of information about the behaviors of the children being nominated by their peers. Chart 1 (p. 4) lists characteristics and referral instruments for several characteristics and types of giftedness.

Screening

The purpose of screening is to secure additional information about the children who have been referred, and/or to add other students to the "talent pool" who may not have been recognized by the referral sources used. Usually, the procedures used for screening include tests which can be administered to large groups at a time (e.g., group achievement tests, group IQ tests, readiness tests) and information which can be obtained from the cumulative records kept at the school (e.g., grades, past records of achievement). Very often, group achievement test scores are used because they are automatically given to all children each year.

Screening measures provide very rough appraisals of a small number of abilities, and are designed to rapidly scan the performance of large numbers of individuals in a way that requires a minimum of time and money. Screening can be used as a means for increasing the talent pool or as a means for narrowing it, depending upon when it is used. A task force of experts in the field of education of the gifted (Richert, 1982) recommends that screening be used to enlarge the pool of students being considered rather than to narrow it. When used in this way, all students in a school are considered in the screening process regardless of whether or not they have been nominated, and no nominated students are excluded from further consideration if they do not meet the established cut-off scores used in the screening process.

Screening procedures usually include group administered achievement tests, group administered intelligence tests, aptitude tests, parent and teacher rating scales, and grades (Richert, 1982). Other procedures can also be used, such as readiness tests; oral language, speech and hearing screening; classroom observations; and self-reports of creative activities. These measures have varying degrees of usefulness, depending on the abilities being evaluated. Use of grades in the screening process is discouraged, however, because of the number of factors other than ability that affect the assignment of grades.

An important aspect of the screening process is the establishment of cut-off scores, or those representing the lowest score that will result in a student being considered for further testing to determine giftedness. There seems to be a tendency for educators to establish high scores on screening measures, thereby eliminating from consideration many children who would be identified as gifted by individual means of assessment. Martinson and Lessinger (1960), for example, found that the Stanford Binet generally yielded IQ scores higher than those obtained on group tests, and that the discrepancy was greater at the highest ranges of intelligence. At the range of 130 to 139, individual scores were an average of 10 points higher, at 140 to 149, they were 14 points higher, and at 160 to 169, they were 34 points higher. Similar results are obtained for group achievement tests.

Based on a thorough analysis of the effectiveness and efficiency of various measures and scores, the Albuquerque Public Schools (Maker, et al., 1981) employ a cut-off of 115 on a group test of intelligence. This is consistent with the recommendation of the task force of experts' recommendation (Richert, 1982) that the talent pool include 20 to 30% of the school population. Chart 1 (p. 4) also provides suggestions for screening measures for the types and characteristics of giftedness included in the USOE and Renzulli definitions of giftedness.

Identification/Selection

Identification consists of an intensive, thorough evaluation of a child's abilities. Its major purpose is to gather information upon which to make decisions about whether a student needs special services due to his or her giftedness. Such information should suggest the type and extent of these special services. The most common procedures used for identification are individual intelligence tests, creativity tests, assessments of student products, auditions, interviews with students or parents, and developmental histories. Other procedures which can be used are individual achievement tests, student proposals, Piagetian conservation tasks, problem-solving tasks, diagnostic teaching with structured observation, tests of musical aptitude, and students' biographies or autobiographies.

The most widely used method is the individual intelligence test (Gillespie, 1982). This is understandable since general intellectual ability is a category of giftedness included by most, if not all, programs for the gifted, and individual intelligence tests are the primary means of identification of this ability. Even though individual tests are widely used, many school districts, unfortunately, employ group-administered tests of intelligence as a means for identification (Richert, 1982). Such tests are inappropriate due to their low ceilings, low predictive validity and low reliability, especially at the higher ranges of intelligence, and the limited abilities that can be assessed by a paper and pencil test. Many items are ambiguous to the child, but the examiner cannot discuss the items. Often a wrong answer is given because the child has too much knowledge of the subject or looks at an item with a creative perspective. One child, for example, consistently missed items on a test because she saw none of the variants as being different. She saw the item that was supposed to be different as "the same as the others, but turned upside down" (Richert,1982).

A second method used widely in the identification process is the assessment of student products. Students are asked to submit an original product that is evidence of their work in some area. It may be a poem, an essay, a report, a musical score, a model, a display, a painting, a drawing, a diorama, a story, or any other original piece. These products may be assessed informally and used as evidence to support the inclusion of a student in the gifted program, or they may be evaluated using a more formal process. Sometimes rating scales or checklists are completed by experts in the area addressed by the product. Several writers and researchers have suggested that product review be used in determining creativity rather than tests of creativity (Renzulli, 1978) because they seem to be more accurate predictors. According to Gillespie (1982), the use of product review as an identification technique increases at higher levels, from less than half the elementary programs surveyed to approximately 57 percent of high schools.

Standardized tests of creativity are used in approximately 35% of urban programs for the gifted, despite some criticism of their use. There are two distinct types of creativity tests. The first is an in-

strument measuring divergent thinking, or the ability to produce many ideas in response to a question or problem. These responses are usually scored on the basis of fluency (number of different responses), flexibility (number of different categories of responses), elaboration (amount of detail in responses), and originality (number of responses given by someone else, or by a very few people who have taken the test.) Divergent thinking tests can be either verbal or non-verbal. The second type of creativity test is a self-report instrument describing creative achievements or responding to items related to self-perception of creative traits. The primary reason for using tests of creativity is that they measure abilities necessary for productive accomplishments and problem solving that are not tapped by tests of intelligence (Guilford, 1975; Stein, 1974; Wallach and Kogan, 1965; Getzels and Jackson, 1962).

Other means of identification have not been used as extensively, and thus have not been evaluated widely. An exception is auditions, which have long been used in the music and drama professions to select individuals for dramatic and musical professions. These procedures have not been used extensively in programs for gifted students, and have not been evaluated as identification procedures. However, many of them offer a great deal of promise in the identification process. One promising practice is involving students in a structured activity requiring leadership skills, problem-solving abilities, or creative abilities, and observing their participation. The use of rating scales and checklists can enhance the observations and add objectivity to the assessments made. This kind of assessment can tap abilities that are not included in a paper-and-pencil test.

Relationship of Referral, Screening and Identification to Definition

The procedures used in identifying gifted students must be clearly related to the definition of giftedness. This may seem to be an elementary concept, but a national survey of identification practices (Richert, 1982) showed that there are many patterns of inappropriate, incomplete, and suspect identification practices in use today. The most important of these is the use of certain procedures to identify categories or types of talent other than those for which the instrument was intended.

For example, the Otis-Lennon Mental Abilities Test was used for identifying specific academic talent, creativity, ability in the visual and performing arts, and leadership, even though it is clearly designed only to assess general intellectual ability. In many cases, achievement tests were used to identify intellectual ability, IQ tests were used to assess academic ability, and IQ tests were used to assess creativity. Often, certain informal or subjective procedures were used to identify abilities in several categories without a clear rationale for their use or distinctions between categories. Such practices must be avoided if the assessment is to provide useful, valid information.

Let us suppose that the USOE definition of giftedness (Chart 1) has been adopted. This means that, first of all, referrals must be solicited in all categories included in the definition: general intellectual ability, specific academic aptitude, creative and productive thinking, visual and performing arts, and leadership. All referral sources can be asked to nominate children in all categories, or specific sources could be tapped depending on the type of giftedness being sought. For example, parents would have information about all areas of giftedness, while music and art teachers would be more knowledgeable about giftedness in the visual and performing arts, and a boy scout troop leader would be most helpful in recognizing leadership ability. Certainly, a child could be nominated for one or more categories, but the lists of nominees should be kept separate for each category.

With regard to screening, it is important that separate measures be designed and used for each category, or that there be a clear, defensible rationale for the use of a particular procedure for more than one category. Group intelligence tests, for instance, would be appropriate screening measures for general intellectual ability, group achievement tests for specific academic ability, musical aptitude tests for performing arts, classroom or playground observations for leadership ability, and self-reports of creative activities for creativity. Additionally, rating scales with separate characteristics for each category of giftedness being identified could be

helpful as a supplement to the use of other screening instruments.

After screening is completed, one needs to look at identification procedures in much the same way as the instruments used for screening. Individual tests of intelligence are appropriate for identifying general intellectual ability, individual tests of achievement for identifying general intellectual ability, individual tests of achievement for identifying specific academic aptitude, creativity tests and product assessment for identifying creative and productive thinking, or for visual arts ability, and auditions for identification of performing arts ability. Diagnostic teaching with structured observation, developmental histories, and interviews can be appropriate for identifying giftedness in a variety of areas depending on the types of activities designed, the behaviors observed, and the questions asked. The various instruments would be used with children in the appropriate "talent pool," and children in each category considered separately for a special program.

If Renzulli's definition is used, however, assessments would need to be made of characteristics in each of the three areas for all children referred because he states that all three clusters of traits are present in the gifted.

5. Some Considerations About Evaluation

There are two types of evaluation which are of importance to educators: evaluation of student progress and evaluation of program success. Although the two types are different and should include different instruments/procedures, assessment of student progress should be used as an important component of program evaluation. Space does not permit an extensive or in-depth discussion of the issues, concerns, and methods relating to both types of evaluation. What will be discussed are some issues related to evaluation in general, as a prelude to a brief development of the assessment of student progress and student placement.

General Issues

Regardless of the type of evaluation, three important considerations must guide the process. First, *the evaluation procedures and instruments must match the stated goals* of the program. This may seem to be an elementary point, but a common error in programs for the gifted is to design a program to develop creativity and divergent thinking, and then use achievement tests to assess the students. If creativity or divergent thinking is a goal, then it seems obvious that assessment of creativity should be a focus in the evaluation.

A second guiding principle is that *multiple measures should be employed* for evaluation of each goal. This includes use of, for example, standardized tests as well as teacher perceptions of student progress. In program evaluation, the principle also suggests assessment by different audiences—students, parents, administrators, teachers of the gifted, and teachers in regular classrooms.

A final general consideration is unique to programs for the gifted. Since an implied goal is to enable students to reach their highest levels of "potential," the assessment of minimum competencies is inappropriate; *the evaluation must address high levels of development rather than acquisition of basic skills.*

Such objectives are difficult to write, and may seem "fuzzy" to administrators or evaluators who are accustomed to the more easily defined objectives specifying basic skills. The gifted should be expected to make greater and/or more rapid progress in achievement of basic skills or development of high level skills than other students.

The problem, however, is that very little information exists that indicates how much progress one can realistically expect from students who are gifted. For instance, should it be expected that an intellectually gifted student make two years' progress each year in academic achievement, or would one and a half years' progress be more appropriate? How much progress should be made in the development of creativity or critical thinking?

To compound the problem, one can seldom find instruments that are appropriate for the assessment of the *highest levels* of any trait (e.g., intelligence, achievement, critical thinking) in students of a particular age. Tests are standardized so that they will provide the best assessment and best discrimination at the *middle ranges* of the traits they are designed to assess. This fact often results in inaccurate results being obtained, especially when little or no growth is indicated on assessment measures precisely because students achieved the highest possible scores before they were placed in the program.

The question of how much growth to expect in gifted students affects program evaluation because it is difficult to know how much overall student growth indicates that the program is successful and how little growth is a signal that changes need to be made. With regard to student progress, the problem is similar. How much growth indicates that there is a match between the student's needs and the special program being provided? Some solutions to these problems will be presented in the following section.

Assessment of Student Progress

Two related problems in assessment of student progress are *low test ceilings and selection of appropriate instruments*. The problem of low test ceilings (not enough items to measure the highest levels of the ability being measured) and low validity/reliability/discrimination in the highest levels of ability due to the concentration of items in the average ranges of the ability being assessed can be solved in two ways. One way is to employ "out-of-level" testing. In other words, when a student's score is very high (or perfect) such as at the 95th percentile or higher on a form of a test designed for his or her age or grade level, the form of the test designed for children older or at higher grade levels should be administered. However, when this is done, it must be remembered that test norms are inappropriate. Raw scores rather than age norms, grade norms, or percentiles should be used in an analysis of growth.

The use of raw scores rather than percentiles or norms is a second solution to problems resulting from low test ceilings when higher levels of tests are unavailable or impractical to administer. Raw scores are more likely to show positive changes than are age or grade norms or percentile rankings when scores are extremely high.

With regard to *selection of appropriate instruments*, obviously the difficulty increases or decreases depending on the learning objectives for the child. If, for instance, the goal is to help the child "develop higher levels of thinking," there are fewer instruments available to measure such a goal rather than another goal such as to "accelerate the achievement/acquisition of basic skills." The age or grade level of the student is an added factor. When assessing the development of higher levels of thinking, for example, there are several instruments widely used and appropriate for high school students (e.g. *The Watson-Glaser Test of Critical Thinking, The Cornell Test of Critical Thinking)*, but only one test widely used and designed for intermediate grades *(The Ross Test of Higher Cognitive Processes)*, and none recommended highly for preschool and primary grades.

When appropriate standardized normative instruments are not available, other methods can be employed. In fact, other information should be collected and analyzed even when standardized measures are available. Parents and teachers can be asked to provide examples of student progress related to individual goals; experts can be asked to evaluate the products of gifted students; and teacher-made tests can be administered.

In general, with regard to the question of how much progress to expect from gifted students, the most appropriate solution seems to be to compare each student's rate of progress individually, or the progress of the gifted students as a group, with their rate of progress before being placed in the special program. Obviously, the degree of difference in rate

of growth for each student must be a subjective decision made on an individual basis.

Assessment of Student Placement

Often, decisions must be made about whether a student should continue in the special program. Unfortunately, such decisions are frequently made on the basis of the student's performance in the regular classroom rather than on his/her performance in the program for the gifted. When this occurs, usually eligibility for continuation in the special program is a "reward" for performance or good behavior in the regular classroom. Too often, for example, performance in the regular classroom is assessed by "completing the work (or worksheets!)" required of other students rather than "demonstrating competence" in the skills being taught in the regular classroom.

In this regard, the underlying assumption, though seldom explored, is that the regular classroom program is necessary and/or appropriate for the student. However, this assumption must be questioned in many cases, because the reason for many students being placed in a special program is mainly that the regular educational program is not meeting their needs. This can also mean that the methods being used in the regular classroom are not appropriate. If, for example, students are not completing their homework or their worksheets (designed for those who need extensive practice in order to master a skill), they may simply be bored with the activities or requirements and/or see no need to demonstrate repeatedly their competence in skills they have mastered. A student who refuses to complete all the required worksheets in arithmetic, but who can give the correct answers with very little thought has demonstrated mastery of the necessary skills, and should not be required to complete the worksheets just because other students must do so.

It is important to stress that satisfactory performance and/or progress in areas related to the goals of the gifted program should be a more important consideration in the evaluation of student progress than performance in the regular classroom. In this regard, mastery of skills is more important than completion of work. Similarly, progress in achievement of basic skills measured by standardized tests is a more appropriate criterion for making judgments than achievement measured by grades (report cards).

Parents and teachers usually believe a student needs a special program because of superior performance and motivation in the regular classroom. However, when students are experiencing difficulty meeting the objectives of the special program, but are performing well in the regular classroom, questions about the appropriateness of the special program may be in order. Sometimes, for example, when placed in a more challenging/demanding program, the student has difficulty because he/she was already performing at the highest level possible. Continuing such a student in the special program could be damaging to his/her self concept because, rather than being at the top of the class, he/she is now at the bottom.

In the following chapter, "Resources", there are several publications cited which address program and student evaluation in an in-depth manner. In particular the following works are suggested: *Renzulli (l975), Callahan (1983), Callahan and Caldwell (1984), and Maker (1985).*

6.
Resources

A Place to Stand (While putting yourself together) by Dr. Earl Reum. Lakewood, Co,: Jefferson County Public Schools,—a pamphlet of stimulating reflections on personal values for students in grades 4 and up.

Affective Education Guidebook by Bob Eberle and Rosie Emery Hall. Buffalo, New York: D. O. K. Publishers, Inc., 1975—a handbook of activities for affective activities with all students.

Analyze by Eleanor Villalpando and Kathy Kolbe. Phoenix, Arizona: Think Ink Publications, 1979—activities designed to promote higher level thinking skills.

Career Action Pack published by McDonald's and written by Robert E. Blum and Carol D. Raymond. Portland, Ore.: Northwest Regional Educational Laboratory, 1980—a series of activities promoting exploration of various career opportunities (does not promote only McDonald's type careers).

Careers Activity Cards by Sherril Brooksby. Palos Verdes Peninsula, Ca.: Frank Schaffer Publications, Inc., 1975—activity cards to be used either singly or in conjunction with other activities which explore various careers.

Career Caravan by John Ourth and Kathie Tough Tamarri. Carthage, Ill.: Good Apple, Inc.,—career activities suited to the students in grades 2-6.

Career Exploration Kit by Marion H. Sandalls. Career Aids, Inc., 1977—promotes in-depth exploration and independent study of careers for older intermediate and junior high aged students.

Career Occupational Preference System by Robert Knapp and Lila Knapp. San Diego, Ca.: Edits, 1981—an inventory used to assess various career preferences to be used specifically with junior high aged student.

Caring by MaryAnne McElmurry. Carthage, Ill.: Good Apple, Inc., 1981—self and community awareness activities nicely integrated.

Challenging The Gifted: Curriculum Enrichment and Acceleration Models by Corinne P. Clendening and Ruth Ann Davies. New York: R. R. Bowker and Co., 1983—a summary look at various models which could be used by steering committees to study possible directions for programming.

Chip In (Motivational Activities to Stimulate Better Thinking) by Bob Eberle. Carthage, Ill.: Good Apple, Inc., 1982—activities to encourage ap-

propriate group interaction as well as logical thinking skills.

Classroom Ideas (For Encouraging Thinking and Feeling) by Frank E. Williams. Buffalo, New York: D. O. K. Publishers, Inc., 1970—the title describes the contents of this one.

Creative Problem-Solving: Planning New Worlds by Sunburst Communications—a combination of creative and future problem-solving ideas to be used for practicing these techniques.

Creating Programs for the Gifted: A guide for Teachers, Librarians and Students by Corinne P. Clendening and Ruth Ann Davies. New York: R. R. Bowker and Co., 1980—a summary of all existing programs in the country could be used successfully to review other programs before deciding direction for programming to take.

Creative Writing Book by Gary Grimm and Don Mitchell. Carthage, Ill.: Good Apple, Inc., 1976—creative writing activities which integrate self-awareness activities.

Critical Issues in Gifted Education (Vol.1), Defensible Programs for the Gifted: What are They? by C.J. Maker, Aspen Systems Corp., Rockville, Md., 1985.

Critical Thinking (Book One and Book Two) by Anita Harnadek. Pacific Grove, Cal: Midwest Publications Co., 1976 (Book One) and 1980 (Book Two)—the most popular books for teaching the specific skills of critical thinking.

Curriculum Development for the Gifted by C. June Maker. Rockville, Md.: Aspen Systems Corp., 1982—practical suggestions for helping gifted students apply critical thinking and develop investigative techniques.

Decision-Making by Elayne Sidley. Educational Insights, 1980—series of situations which present problems for creative solutions.

Destiny: Discovering Your Call by Lyman Coleman. Waco, Texas: Creative Resources (Word Inc.), 1975—individual and group values reflections using gospel passages as basic input.

Dilemmas by Avalon Hill Publishers, Baltimore, Maryland, 1983—problems presented for creative problem-solving.

Drawing on the Right Side of the Brain by Betty Edwards. Boston: Houghton-Mifflin Co., 1979—a course in enhancing creativity and artistic confidence.

Gifted Children: A Guide for Parents and Teachers by Virginia Z. Ehrlich. Englewood Cliffs, New Jersey: Prentice-Hall, in., 1982—excellent material for helping parents and teachers cope with and understand giftedness.

Gifted Children: Psychological and Educational Perspectives by Abraham J. Tannenbaum. New York: MacMillan Publishing Co., 1983—excellent summary of all aspects of giftedness; a must to be used as encyclopedia or dictionary when working with the gifted, teachers, or parents.

Giftedness, Conflict and Underachievement by J.R. Whitmore. Boston: Allyn and Bacon, 1981.

Grokking Into the Future by Edith J. S. Doherty and Louise C. Evans. East Windsor Hill, Conn.: Synergetics, 1981—excellent collection of relevant future problems for solving.

A Guidebook for Evaluating Programs for the Gifted and Talented: A Working Draft by J.S. Renzulli, Office of Ventura County Superintendent of School, Ventura, California, 1975.

Guiding the Gifted Child by James T. Webb, Elizabeth Mackstroth and Stephanie S. Tolan. Columbus, Ohio: Psychology Publishing Co., 1982.

Handbook on Interpretive Reading and Discussion by The Great Books Foundation. Chicago, Illinois, 1978—accompanies the Junior Great Books reading program and gives good ideas for questioning strategies that encourage open-ended discussion and divergent thinking.

Imagination: The Springboard to Creativity by Ruth Kline. The Human Resource Chevron Family of Companies, 1981—ideas on how to use imagination in learning.

Insight...Experiences in Self-awareness by Daniel Stewart. Hastings, Mi.: The Coal Bin, Inc., 1975—excellent activities for use in the classroom to promote personal development.

Issues in Evaluating Programs for the Gifted by C.M. Callahan. *Gifted Child Quarterly*, 27 (1), 3-7.

It's a Gas to be Gifted by Ruth Noller. Buffalo, New York: D. O. K. Publishers, Inc., 1979—realistic problems for creative problem-solving.

Job, Seeking, Finding, and Keeping produced by the Maryland State Department of Education—series of television segments about career education; can be used successfully with junior high gifted students.

Junior Great Books (Series 9) published by The Great Books Foundation, Chicago, Ill.—literature which promotes divergent thinking and interpretive discussion skills as well as questioning strategies for the teacher.

Language and Communication published by the American Psychological Association. New York: Teachers College Press, 1981—in-depth study of language and communication.

Logic, Anyone? by Beverly Post and Sandra Eads. Belmont, Ca.: Pitman Learning, Inc., 1982—logic puzzles to promote higher level thinking skills.

101 Puzzles in Thought and Logic by C. R. Wylie Jr. New York: Dover Publications, Inc. 1957—logic puzzles for higher level thinking skills.

Logic Box published by Resources for the Gifted. Phoenix, Arizona, 1981—logic puzzles done in card form so as to be more usable in an individual manner.

Making Waves with Creative Problem-Solving by Vaune Ainsworth-land and Norma Fletcher. Buffalo, New York: D. O. K. Publishers, Inc., 1979—a step-by-step course in creative problem solving with accompanying activities.

Mastermind Brain Teasers by Joseph and Lenore Scott. New York: Grosset and Dunlap, Inc., 1978—encourage higher level thinking.

Meditating with Children by Deborah Rozman. Boulder Creek, Ca.: University of the Trees Press, 1975--activities in the art of concentration and centering appropriate even for young children.

Myers-Briggs Type Indicator by Katherine C. Briggs and Isabel Briggs Myers, Palo Alto Consulting Psychologists Press, Inc., 1976—an excellent indicator of how students learn.

The Other Side of Reading by Joe Wayman. Carthage, Ill.: Good Apple, Inc., 1980—activities which require right brain skills involved in reading and thus also encourage creative thinking.

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